

DRAWING AMENDMENTS

Please substitute the accompanying new sheets 4/15 and 5/15 for those presently in the application.

REMARKS

The Official Action dated April 5, 2005 has been carefully reviewed and amendments to this application have been made where believed appropriate.

Turning first to the claim objections and rejections at pages 4 and 5 of the Official Action, in claim 27 the objected-to terms "chlorosomes RC⁻" and "chlorosome fragments" etc. have all been replaced with "RC⁻ chlorosome(s)." With that, it is respectfully urged, all claims present in this application for action by the examiner are in condition for allowance. Favorable reexamination to that end is respectfully requested.

The examiner's withdrawal of the previous claim rejections under 35 U.S.C. § 102 and 103 is noted with appreciation.

Regarding the examiner's objections to the March 14, 2005 amendments on the basis of "new matter," these are overcome by the current amendments. Since the "*C. aurantiacus* whole cells" were originally referred to in the specification (p. 18, line 12 for example) and since the RC⁺ chlorosomes and RC⁻ chlorosome portions could be clearly seen to be less than or a "fragment" of the whole, the expressions "whole cell fragment," "RC⁺ whole cell fragment," and "RC⁻ whole cell fragment" appear inherent in the specification as originally filed. Still, applicants are in agreement that consistent use of terms throughout the specification is preferred for clarity. Consequently, by this amendment, "RC⁺ chlorosome(s)" and "RC⁻ chlorosome(s)" are used consistently throughout the specification. This should make moot the examiner's objections to the previous amendments to pages 10 - 13 and page 16.

Concerning the objection to the amendment of page 14 (page 3 of the Official Action), reference to RC⁻ chlorosomes in regard to Fig. 9 has been changed back to simply "chlorosomes." Two obvious misspellings, of "designated" and "monomeric," have been

corrected. The brief description of Fig. 9 has been revised accordingly. Note that it is not the Bchl a referred to in Fig. 9 that is absent from RC⁻ chlorosomes as stated in the outstanding Official Action. That is present in the base plate 102. The absorbance spectra plot of Fig. 9 is for a RC⁻ chlorosome. New Fig. 9A is identical to Fig. 4.15 of the dissertation "Design Feasibility of a Nanoscale Biophotonic Hybrid Device," J. LaBelle, which is a part of the provisional patent application Serial No. 60/408,775 from which this application claims priority. That provisional application has been incorporated into this application by reference. See p. 1, lines 3 - 7 of this application. The provisional application unequivocally identifies the spectra of Fig. 9A as relating to the RC⁻ chlorosome. The description of Fig. 9A added here to both the Brief Description of the Drawings and p. 14 of the specification is taken from p. 124 of the dissertation incorporated by reference. Consequently there is no addition of new matter.

The incorrect reference to "Fig. 6" on page 14 as noted by the examiner has been removed. The examiner's careful review is appreciated.

Concerning the amendment to page 19, first paragraph, "RC⁻ chlorosomes" has been changed to "chlorosomes." It is believed that one skilled in the art would understand the applicants to be referring to their preferred RC⁻ chlorosome so the explicit reference would not be new matter. However, as the procedure is applicable to RC⁻ and RC⁺ chlorosomes, applicants believe the paragraph remains accurate even if understood to refer to both or either of the RC⁻ and RC⁺ chlorosomes. The paragraph has been clarified to indicate that LEICA refers to the source of the instrument used in the microscopy discussed. LEICA is well known in the art as an instrument manufacturer.

Concerning the examiner's objections to the amendments to pages 30, 31 and 40, the paragraph beginning at line 12, page 30 has been restored to its original content as has the

paragraph beginning at line 14 of page 41. These had been deleted as apparently redundant. Also insofar as the examiner states that these are needed for an enabling disclosure, applicants respectfully disagree. The best mode of at least one specific, preferred embodiment of the invention has been set out in detail, which is what the patent statute requires. 35 U.S.C. § 112. The cautionary statements of "factors [that] need to be taken into account" is for the benefit of other researchers in the area and is typical of a thesis or other scientific writing. Nevertheless, the paragraphs have been restored and may prove helpful to those interested in practicing embodiments of the invention differing from the applicants' disclosed-in-detail preferred embodiment. The parenthetical reference to "success" of the chlorosomes has been changed to "successful use" of the chlorosomes as a more accurate expression of what was originally expressed. With that it is understood from the examiner's remarks in the outstanding Official Action that the examiner, like the applicants, will now recognize the disclosure as enabling. It is respectfully urged that the objection should now be withdrawn.

No change was made to the paragraph beginning at line 6 of page 30 as it is believed clearer to refer to "final product assembly addressed above," rather than "addressed in the first section above," which is somewhat inaccurate or at least ambiguous (i.e. first section of what?). It is requested, therefore, that the examiner withdraw her objection to the extent it was intended to apply to this paragraph.

For clarity, where the description of the chlorosome of Fig. 5 is described at page 13, lines 4 - 6, the sub-unit 103 is described more completely now as "B808/866 protein, supra molecular light-harvesting complex or apparati." Support for the addition of "supra molecular" was present in the original specification at page 13, line 9 - "supra molecular complex 103."

Support for "light harvesting apparati" was present in the original specification at page 13, line 13 - "B808/866 light harvesting apparati."

In view of the above, it is respectfully urged that this application is now in condition for allowance and favorable further examination to that end is respectfully requested. Should the examiner have questions, comments or suggestions concerning this application, the examiner is invited to telephone the undersigned attorneys for applicant or to email them at the contact information given below.

A one month extension of time in which to respond to the Official Action is requested in the accompanying Request for Extension of Time, submitted in duplicate. Authorization is given to charge any additional fees associated with this communication to Deposit Account No. 070135.

Respectfully submitted,

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